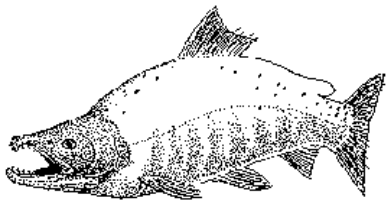
ISSUES AND INFORMATION NEEDS

FEDERAL SUBSISTENCE FISHERIES MONITORING PROGRAM



Guidance Provided by the Federal Regional Advisory Councils for the Development of the Year 2001 Fisheries Resource Monitoring Program

Fisheries Information Services
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May 17, 2000

Introduction

This document records the issues and information needs identified as important to federal subsistence fisheries management and that will be used to guide the development of the resource monitoring program for 2001. This list represents concerns and suggestions provided at the winter meetings of the Regional Advisory Councils during February and March 2000. The Councils were requested to provide this input as a first step in the development of the annual studies program for 2001. Subsistence users, the public, tribes, the Alaska Department of Fish and Game (ADF&G), and federal agencies have worked together within the Regional Advisory Council process to develop this list.

Pre-proposals for resource monitoring projects that address these issues and information needs will be requested in May 2000. Late in 2000, the Regional Advisory Councils will be asked to review a DRAFT Annual Resource Monitoring Plan for 2001 based on project proposal submissions. Comments and recommendations will then be compiled and forwarded to the Federal Subsistence Board for their consideration in early 2001.

The unified fisheries resource monitoring program for 2001 will be directed and built on the foundation established by the issues identified in this document. This document should be used as important guidance in the development of project proposals. However, information needs change over time and the program will be responsive to new emerging issues – therefore projects in the resource monitoring program will not be restricted to solely those information needs or subsistence management concerns identified here provided that adequate justification is provided as to why a new topic is appropriate. Such justifications should address the following criteria:

1. **Federal Jurisdiction** – Issue or information needs must have a direct association to a subsistence fishery within a federal conservation unit.

2. **Conservation Mandate** – Risk to the conservation of species and populations that support subsistence fisheries and risk to conservation unit purposes.

3. **Allocation Priority** – Risk of failure to provide a priority to subsistence uses and risk that subsistence harvest needs will not be met.

4. **Data Gaps** – Amount of information available to support subsistence management (higher priority given where a lack of information exists).

5. **Role of Resource** – Importance of a species to a subsistence harvest (e.g., number of villages affected, pounds of fish harvested, miles of river) and qualitative significance (e.g., cultural value, unique seasonal role).

6. **Local Concern** – Level of user concerns over subsistence harvests (e.g., allocation – upstream vs. downstream, recreational use concerns, changes in size of fish).

This document is not intended to be an all-inclusive statement of information needs for subsistence fisheries management on federal lands in Alaska. Rather, this list represents the first attempt at systematically documenting issues relating to federal subsistence fisheries. New issues will arise and some information needs may have been missed. Thus, the contents of the

document are open for review and revision at any time. A revision is planned every year and will be conducted at the winter Regional Advisory Council meetings.

The document is organized from north to south by the six geographic regions used within the resource-monitoring program serving federal subsistence fisheries management. These regions are:

ARCTIC/KOTZEBUE/NORTON SOUND REGION
YUKON RIVER REGION
KUSKOKWIM RIVER REGION
BRISTOL BAY/AK PENINSULA/KODIAK REGION
GULF OF ALASKA REGION
SOUTHEAST ALASKA REGION

Issues and information needs are organized into three information categories:

1. Stock Status and Trends
2. Subsistence Harvest Monitoring
3. Traditional Ecological Knowledge

The numbering of these categories nor issues and information needs listed within these categories in the pages that follow do not reflect their priority in the program.

Each project developed for the 2001 program should focus on one information category only.

Any comments, suggestions, or additional fisheries issues should be sent, phoned to, or faxed directly to Fisheries Information Services, Office of Subsistence Management.

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ARCTIC/KOTZEBUE/NORTON SOUND REGION SUBSISTENCE FISHERIES MONITORING ISSUES

North Slope Regional Council Meeting, Barrow, February 17, 2000
Seward Peninsula Regional Council Meeting, Unalakleet, February 22-23, 2000
Northwest Arctic Regional Council Meeting, Kotzebue, February 29, 2000

The issues noted below are a result from brief, preliminary discussions by the Regional Advisory Councils. After the winter meetings, some members identified additional concerns which are also incorporated into this list.

Stock Status and Trends

1. Distribution, Abundance, and Life History of Fish Species
    - Distribution and abundance of fish species in the Deering (salmon) and Buckland areas.
    - Distribution, abundance, and life history of king salmon, silvers (coho), pinks, chum, whitefish, sheefish, tomcod, herring and trout in the Pikmiktalik River, Steamboat River, Golsovia River, Big Canal River, Small Canal River and Nunavulnuk Nunkogak River.
    - Seasonal movement patterns of char and their origins, and the effects of these patterns on subsistence fisheries.
    - Trends in juvenile salmon out migration to assess survival and freshwater productivity of Norton Sound salmon stocks.

2. Delayed Mortality of Catch and Release Fishing – Determine the long-term mortality of released angler-caught sheefish, char, and other freshwater species, including fish that are caught multiple times.

3. Fisheries Monitoring
    - The effects of offshore intercept fisheries on salmon stocks.
    - Adult salmon escapement monitoring of important subsistence salmon stocks of the Pikmiktalik River in the Stebbins and St. Michaels area.
    - Effects of tagging of sheefish on survival, growth, and condition.

4. Coastal Ecology
    - Ecological role of fish species in the coastal food web? A lack of information exists on availability of forage fish for sea birds, marine mammals and other fish used for subsistence food.
    - Assess changes in coastal marine productivity.

5. Water Quality and Fish Contamination – Concerns about the subsistence fishery resources near Shungnak was raised related to sewage contamination and water quality.

ARCTIC/KOTZEBUE/NORTON SOUND REGION
SUBSISTENCE FISHERIES MONITORING ISSUES – CONTINUED

Subsistence Harvest Monitoring

1. Subsistence Harvest Patterns
    - Determine the importance of char subsistence harvest for different villages.
    - Monitor changes over time in the areas fished and the species targeted for subsistence fishing in the Nome sub-district caused by shortages in key salmon runs.

2. Harvest Monitoring Design – Conduct data collection and validation of subsistence harvest information by local tribal groups.

Traditional Ecological Knowledge (TEK)

1. Long Term Trends and Sources of Variation
    - Determine from TEK over long time scales the variations that have occurred in stock abundance for all species.
    - TEK of subsistence fish population trends, causes of variations, traditional conservation measures, and management approaches.
    - Identify from TEK potential causes or explanations for low and high fish abundance.

2. Fish Life History
    - Document elders knowledge of the seasonal patterns of fish movement.

3. Subsistence Use and Practices
    - Document elders knowledge of traditional fishing areas for key species.
    - Develop indigenous definition of subsistence use and practices.

4. Comments about Subsistence Management
    - More emphasis should be given to local knowledge as a basis for subsistence management.
    - Local community elders should be consulted for validation of customary and traditional valuation and determination.

YUKON RIVER REGION
SUBSISTENCE FISHERIES MONITORING ISSUES

Eastern Interior/Western Interior Regional Council Meeting, Fairbanks, February 22-23, 2000
Yukon/Kuskokwim Delta Regional Council Meeting, Nunapitchuk, March 21-22, 2000

Stock Status and Trends

1. Distribution, Abundance and Life History of Fish Species
    - Describe the distribution, abundance, and life history of freshwater resident species (including level of by-catch in fish wheels).
    - Assess the effects of natural environmental disasters such as the 1994 and 1998 floods on the Koyukuk River.
    - Determine the causes of the poor chinook and chum salmon runs in the upper Yukon River.
    - Assess the effects of beavers and their dams on whitefish and other fishes.
    - Conduct stream surveys to determine the distribution and abundance of salmon and other fish on the lower Yukon.
    - Identify spawning populations of salmon and their run sizes in the Yukon River drainage.
    - Assess the production and contribution of salmon from clearwater streams in the lower Yukon to the overall salmon run – conduct surveys.
    - Estimate salmon escapement using a weir on the North Fork of the Andreafsky River.

2. Delayed Mortality of Catch and Release Fishing – Determine the amount of delayed mortality that occurs in angler caught and released northern pike from the Innoko River and elsewhere.

3. Fisheries Monitoring
    - Estimate Yukon River salmon stock interception/by-catch by fisheries adjacent to the Alaska Peninsula.
    - Impact of changes in regulations in mesh size on the size and sex of fish caught.
    - Assess the effect of changing the drift-net fishery zone on the middle Yukon in terms of fish caught and the geographic distribution of fishing effort.
    - Evaluate alternate sites for the Pilot Station sonar to improve salmon counts.
    - Identify the contribution of different salmon populations (especially small stream contributions and the Koyukuk River) to the fisheries in the Yukon River drainage.
    - Assess the effect of jet boat wakes on fall spawning fishes.
    - Determine best locations and establish additional test fisheries sites near the mouth of the Yukon.
    - Determine the effects of hatchery fish on wild salmon populations.

4. Coastal Ecology – Develop a design for a research program for those subsistence salmon fisheries that are dependent on the Bering Sea ecology. (see AVCP proposal).

YUKON RIVER REGION SUBSISTENCE FISHERIES MONITORING ISSUES – CONTINUED

5. Water Quality and Fish Contamination
    - Asses the effects of pollution from outboards and mines on the Koyukuk River.
    - Determine the level of toxic contamination in Tetlin area whitefish.

Subsistence Harvest Monitoring

1. Subsistence Harvest Patterns
    - Document the changes in subsistence harvest patterns in terms of species, areas fished, gear used, and times fished.
    - Determine the subsistence harvest of salmon and freshwater fish by employing local residents to conduct the surveys.

2. Harvest Monitoring Design – Conduct house to house surveys to supplement fish harvest calendars.

Traditional Ecological Knowledge

1. Long Term Trends and Sources of Variation
    - TEK of subsistence fish population trends and causes for variations in abundance.
    - Determine from TEK over long time scales the variations that have occurred in stock abundance for all species.
    - Identify from TEK potential causes or explanations for low and high fish abundance.

2. Fish Life History
    - Document elders knowledge of the patterns of fish movement.

3. Subsistence Use and Practices
    - Document elders knowledge of traditional fishing areas for key species.
    - Use TEK to describe traditional conservation measures and solutions.

KUSKOKWIM RIVER REGION
SUBSISTENCE FISHERIES MONITORING ISSUES

Eastern Interior/Western Interior Regional Council Meeting, Fairbanks, February 22-23, 2000
Yukon/Kuskokwim Delta Regional Council Meeting, Nunapitchuk, March 21-22, 2000

Stock Status and Trends

1. Distribution, Abundance, and Life History of Fish Species
    - Describe the distribution, abundance, and life history of freshwater resident species.
    - Assess the effects of beavers and their dams on whitefish and other fishes.
    - Conduct stream surveys to determine the distribution and abundance of salmon and other fish.
    - Identify spawning populations of salmon, and their run sizes in the Kuskokwim River watershed.

2. Fisheries Monitoring
    - Estimate Kuskokwim River drainage salmon interception/by-catch by fisheries adjacent to the Alaska Peninsula.
    - Estimate the level of by-catch in fish wheels of freshwater resident species.
    - Assess impact of changes in regulations in mesh size on the size and sex of fish caught.
    - Identify contributions of different salmon populations to fisheries in the Kuskokwim River.

3. Coastal Ecology – Develop a design for a research program for those subsistence salmon fisheries that are dependent on the Bering Sea ecology. (see AVCP proposal)

Subsistence Harvest Monitoring

1. Subsistence Harvest Patterns
    - Document the changes in subsistence harvest patterns in terms of areas fished, gear used, and times fished.
    - Conduct harvest surveys of Nunapitchuk subsistence fisheries.
    - Determine subsistence harvest salmon and freshwater fish.

2. Harvest Monitoring Design
    - Conduct house to house surveys to supplement fish harvest calendars.

KUSKOKWIM RIVER REGION SUBSISTENCE FISHERIES MONITORING ISSUES – CONTINUED

Traditional Ecological Knowledge (TEK)

1. Long Term Trends and Sources of Variation
    - Document TEK of subsistence fish population trends and causes of variations in abundance.
    - Determine from TEK over long time scales the variations that have occurred in stock abundance for all species.
    - Identify from TEK potential causes or explanations for low and high fish abundance.

2. Fish Life History
    - Document elders knowledge of the patterns of fish movement.

3. Subsistence Use and Practices
    - Document elders knowledge of traditional fishing areas for key species.
    - Document TEK of fisheries on Kanektok and Arolik Rivers by NVK – year 2000 if possible.
    - Document TEK of traditional conservation measures and solutions.

BRISTOL BAY/AK PENINSULA/KODIAK REGION SUBSISTENCE FISHERIES MONITORING ISSUES

Kodiak-Aleutians Regional Council Meeting, Anchorage, March 21-22, 2000
Bristol Bay Regional Council Meeting, Dillingham, March 24-25, 2000

The Kodiak-Aleutians RAC identified the need for an assessment of the Reese Bay sockeye run.

The Bristol Bay RAC members did not feel that they had sufficient time to spend on identification of the information needs and issues for the FY 2001 monitoring program. Several of the RAC members felt strongly that fuller understanding and agreement was needed on the criteria for identifying and prioritizing projects before their council could meaningfully become involved. The Bristol Bay RAC asked to add the project selection criteria to the agenda for the Federal Subsistence-Regional Council Chairs workshop in early May in Anchorage. Robin Samuelsen and Robert Heyano were asked to prepare some draft criteria on behalf of the Bristol Bay RAC for consideration.

The Bristol Bay Native Association provided a document titled "Bristol Bay Priority Information Needs Assessment" to the RAC during the March 24-25 meeting. This report provided the results of six village meetings held throughout the Bristol Bay region to identify, discuss, and prioritize subsistence fisheries issues and data needs for the region. On the basis of this input, BBNA had developed seven pre-proposals for FY 2001 funding. Harvest assessment and TEK documentation were highlighted as important to the region. The Council members recognized the excellent work by BBNA, but wanted to postpone comments on the BBNA proposed projects, until the fuller discussion of criteria.

Several considerations were voiced by RAC members regarding the type of criteria and ultimately the type of fisheries studies program that was needed:

- Subsistence needs and concerns of all rural residents native and non-native must be addressed.
- Concern about the recent involvement and/or interest of statewide native groups in seeking funding through the federal subsistence program was voiced. RAC members wanted to see capacity building happen at the local level where the issues were really understood and local benefit could be realized.
- Making a strong justification between study objectives and real subsistence management issues and concerns was a high priority. Several council members questioned whether some of the FY 2000 projects approved or being considered really met these criteria.
- The need for strong project accountability and high technical standards were emphasized to ensure that the best use of the funds to really help deal with subsistence fisheries concerns.

By phone message, Dan Salmon, administrator for the Igiugig Village Council passed along two subsistence fisheries issues for Bristol Bay information needs.

1) Local residents have noted a decline in the abundance of whitefish in the Kvichak River over the past several years, however there is no baseline data on whitefish to quantify the change.
2) There is a perception that the early run sockeye salmon in the Kvichak River system spawn in Lake Clark, but no one knows for sure. Dan Salmon suggests a study looking at run timing and where various salmon runs spawn.

GULF OF ALASKA REGION
SUBSISTENCE FISHERIES MONITORING ISSUES

Southcentral Regional Council Meeting, March 1-3, 2000

Kenai River

Stock Status and Trends

1. Distribution, Abundance, and Life History of Fish Species – Identify critical spawning areas for salmon and trout.

2. Delayed Mortality of Catch and Release Fishing
    - Evaluate the effects of catch and release fishing on salmon and trout behavior and mortality.
    - Assess the effects of catch and release fishing in spawning areas on spawning success.

3. Fisheries Monitoring – Research the effects of boat wakes on spawning and rearing habitats and whether speed or horsepower limits adequately protect critical habitat areas. (This issue was brought up for both the Kenai and the Klutina Rivers).

Subsistence Harvest Monitoring

1. Subsistence Harvest Patterns
    - Survey subsistence fishermen to determine which sections of the river are used and preferred for subsistence fishing. The Kenaitze currently fish on the beach and about a ¼ mile above the bridge, but people have historically utilized a number of areas including setnet sites, with permission.
    - Work with the community to determine which areas are acceptable for subsistence use.
    - Document current subsistence needs and harvest areas.

2. Comments about Subsistence Management
    - The issue of subsistence in the Kenai River is a people issue. There is a need for some sort of community dialogue for people to talk about their thoughts and feelings about subsistence.
    - How will the federal agencies use harvest information? If it becomes a matter of public record, people may use that information to start new fisheries. For example, ADF&G may not be aware that there are trophy rainbows in a particular tributary, but local residents are. Would that information be used to start a new sport fishery?

GULF OF ALASKA REGION SUBSISTENCE FISHERIES MONITORING ISSUES – CONTINUED

Copper River

Stock Status and Trends

1. Distribution, Abundance, and Life History of Fish Species
    - Conduct stock identification studies and population estimates for salmon spawning in tributaries.
    - Study the impact of beaver dams on salmon spawning habitat in Tanada, Born and Sinona Creeks
    - Work should also be done to document run timing and life histories.
    - Assess the general decline in the Copper Lake and Chitina Valley burbot populations and factors that might be causing the decline.
    - Is there a relationship between the relative severity of winters in the Interior and the timing of salmon returns?
    - Evaluate the effect of tidal or lunar influences on salmon behavior in the river.

2. Coastal Ecology
    - Initiate a planning effort to anticipate user conflicts assuming that the Pacific decadal oscillation (PDO) is responsible for a 20-year abundance cycle for salmon.

3. Fisheries Monitoring
    - Evaluate the feasibility of employing sonar for fish counting closer to the mouth of the Copper River rather than at Miles Lake. This could provide managers with more timely information for in-season management.
    - Assess the effects of hatcheries on wild salmon stocks. Hatcheries need to use wild stocks and preserve genetic diversity.

Subsistence Harvest Monitoring

1. Subsistence Harvest Patterns
    - Identify preferred subsistence use areas.
    - Document subsistence needs and harvest levels.

Traditional Ecological Knowledge

1. Long Term Trends and Sources of Variation
    - Document TEK on streams pioneered by new salmon populations and on streams that had runs in the past but are no longer productive.
    - Conduct a TEK study on interannual and intraannual variations in salmon runs.

SOUTHEAST ALASKA REGION
SUBSISTENCE FISHERIES MONITORING ISSUES

Southeast Alaska Regional Council Meeting**,** Douglas, March 14-16, 2000

The Council recommended 4 types of project categories to the Federal Subsistence Program for FY 2001 Subsistence Fisheries Monitoring. In priority order they are:

1. Regulation Review
2. Sockeye and Coho Salmon Stock Status
3. Traditional Knowledge
4. Harvest Monitoring

Stock Status and Trends

1. Distribution, Abundance, and Life History of Fish Species
    - Klawock Lake Salmon Stock Assessment
    - Hoktaheen Salmon Stock Assessment
    - Falls and Gut Lakes Stock Assessments
    - Sitka Sound Coho Salmon Assessments
    - Hetta Lake Sockeye Salmon Stock Status
    - Historical Productivity of Situk and Mountain Lakes
    - Ahrnklin River Sockeye Salmon Stock Assessment
    - Historical Productivity of Sockeye Systems
    - East Alsek River Salmon Stock Assessment

Subsistence Harvest Monitoring

Harvest Monitoring (under-reporting subsistence salmon harvests) concerns were expressed from virtually every Tribal Government, the Council, and Agency Staffs. The Council recommends implementation of the following projects in 2001:

1. Subsistence Harvest Patterns
    - Southeast Alaska Subsistence Use Estimates
    - East Kuiu Coho Salmon Harvest Monitoring
    - Falls / Gut Lake Harvest Monitoring
    - Bay of Pillars Sockeye Harvest Monitoring
    - C&T Self Determination Sockeye Harvest Monitoring
    - Klawock Lake Harvest Monitoring

Traditional Ecological Knowledge

1. Long Term Trends and Sources of Variation – TEK of Salmon in the Situk and Ahrnklin River.

2. Subsistence Use and Practices – TEK mapping of traditional subsistence territories

Other

Regulation Review – A proposal has been developed for regulation review by the Angoon Community Association to review all State and Federal Subsistence Fisheries Regulations in cooperation with Tribes, Rural Communities and Agencies. Changes to Federal Subsistence Regulations will be suggested to better recognize customary and traditional harvest methods and means.